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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/526,628	03/16/2000	Robert M. Fries	14531.55.1	5781

47973 7590 01/25/2005

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EXAMINER
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MANNING, JOHN

ART UNIT	PAPER NUMBER
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2614

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/526,628

Applicant(s)

FRIES ET AL

Examiner

John Manning

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 August 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 23-28,40-45,51 and 53-83 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-28,40-45,51 and 53-83 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see Page 24, filed August 16, 2004, with respect to the rejection(s) of claim(s) 23-28, 31, 32, 38-45, 48-51 and 53-58 under 35 U.S.C. 102(e) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of the Wugofski reference (US Pat No 6,003,041).

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 23-26, 40-43, 53-65, 68, 70-75 and 78-83 are rejected under 35 U.S.C. 102(e) as being anticipated by Wugofski.

In regard to claim 23, the claimed method for tuning to a channel from among multiple broadcast types is taught by the tuning system seen in Figure 1 receiving broadcast signals from multiple tuners 110. The claimed computer readable medium for prodding executable code is met by the programmable digital processing system 150, which inherently contains executable code to produce control signals. The claimed steps of "an act of tuning the system storing a plurality of service records in a plurality of

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service spaces of a memory accessible by the tuning system, wherein each service record contains tuning information for tuning to a channel of one of the plurality of broadcast types, when one or more digital data streams are broadcast to the tuning system over one or more digital channels" and "an act of extracting additional tuning information from the one or more digital data streams, wherein the additional tuning information is necessary for subsequent tuning to the one or more corresponding digital channels" are met by Figures 3-6. "Channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310. FIG. 6 shows a structure 600 for database 370. A set 610 of individual records 611-614 includes columns for designating independent logical and physical designations 621 and 622 for the same channel, for specifying a signal source 623 for that channel, and for naming a primary device 624 for receiving the channel into multiplexer 130, FIG. 1. Logical channel numbers--or other designations--621 are unique within system 100, and have no necessary relation to physical channels, transmission channels, or any other designation employed by their source. They create a linear name space across the entire system" (Col 5, Lines 37-48). The claimed step of "an act of storing the additional tuning information in one or more of the service records that correspond to one or more digital channels over which the digital data streams were broadcast" is met by Figure 7. "When a new connection is made, step 711 executes step 715, which requests the user to identify the device 120, its port number in multiplexer 130, and its source 110. Step 716 may then read a number of characteristics from the device itself, such as whether it is capable of tuning multiple channels. Step 717 then builds a new record containing the

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information in columns 520, FIG. 5. Step 718 adds the record to device database 350, and passes control to exit 702" (Col 6, Lines 24-32). The claimed step of "an act of the tuning system categorizing the plurality of service records into a plurality of service spaces according to broadcast type, such that each service space corresponds to a different broadcast type" is met by Figure 6 Item 623. The information depicted is entered into a database, which is inherently a collection of data structured and organized in a disciplined fashion so that access is possible quickly to information of interest. The claimed steps of "upon receiving a user selection of a service space, identifying a correct one of a plurality of tuners to use in tuning to one or more channels that are identified by one or more service records in the selected service space", "an act of the tuning system receiving a channel selection corresponding to a particular one of the service records in the selected service space" and "an act of the tuning system accessing the particular one of the service records from the memory the particular one of the service records including the extended additional tuning information" are met by Figure 3. "TV-services module 310, one of the services in layer 220, controls multiplexer 130 to select among input devices 120 for presentation on output devices 140, and controls the selected device to tune to a particular channel on that device" (Col 4, Lines 37-40). The claimed step of "an act of the tuning system tuning to the selected channel using the tuning information and the extracted additional tuning information, wherein the extracted additional tuning information enables the tuning system to automatically tune into the selected channel without having to re-extract the additional tuning information that would otherwise be required to tune into the selected channel" is

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met by Figures 3 and 6. As stated above channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310, where module 310 controls multiplexer 130 to select among input devices 120 for presentation on output devices 140.

In regard to claim 24, the claimed steps of “an act of the tuning system storing information that identifies a tuner in each of the plurality of service records in the memory” and “an act of the tuning system storing information that identifies a channel in each of the plurality of service records in the memory” is met by Figure 6, Items 624 and 622.

In regard to claim 25, the claimed step of “an act of the tuning system accumulating the plurality of service records in the memory.” is met by Figure 6.

“Channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310. FIG. 6 shows a structure 600 for database 370. A set 610 of individual records 611-614 includes columns for designating independent logical and physical designations 621 and 622 for the same channel, for specifying a signal source 623 for that channel, and for naming a primary device 624 for receiving the channel into multiplexer 130, FIG. 1. Logical channel numbers--or other designations--621 are unique within system 100, and have no necessary relation to physical channels, transmission channels, or any other designation employed by their source. They create a linear name space across the entire system” (Col 5, Lines 37-48).

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In regard to claim 26, the claimed step of “an act of at least one tuner of the tuning system monitoring at least one broadcast type to determine available channels in the at least one broadcast type” is met by Figure 7. “Step 716 may then read a number of characteristics from the device itself, such as whether it is capable of tuning multiple channels. Step 717 then builds a new record containing the information in columns 520, FIG. 5. Step 718 adds the record to device database 350, and passes control to exit 702” (Col 6, Lines 27-32).

In regard to claim 40, the claimed method for tuning to a channel from among multiple broadcast types is taught by the tuning system seen in Figure 1 receiving broadcast signals from multiple tuners 110. The claimed computer readable medium for prodding executable code is met by the programmable digital processing system 150, which inherently contains executable code to produce control signals. The claimed steps of “an act of tuning the system storing a plurality of service records in a plurality of service spaces of a memory accessible by the tuning system, wherein each service record contains tuning information for tuning to a channel of one of the plurality of broadcast types, when one or more digital data streams are broadcast to the tuning system over one or more digital channels” and “an act of extracting additional tuning information from the one or more digital data streams, wherein the additional tuning information is necessary for subsequent tuning to the one or more corresponding digital channels” are met by Figures 3-6. “Channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310. FIG. 6 shows a structure 600 for database 370. A set 610 of individual records 611-614 includes

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columns for designating independent logical and physical designations 621 and 622 for the same channel, for specifying a signal source 623 for that channel, and for naming a primary device 624 for receiving the channel into multiplexer 130, FIG. 1. Logical channel numbers--or other designations--621 are unique within system 100, and have no necessary relation to physical channels, transmission channels, or any other designation employed by their source. They create a linear name space across the entire system" (Col 5, Lines 37-48). The claimed step of "an act of storing the additional tuning information in one or more of the service records that correspond to one or more digital channels over which the digital data streams were broadcast" is met by Figure 7. "When a new connection is made, step 711 executes step 715, which requests the user to identify the device 120, its port number in multiplexer 130, and its source 110. Step 716 may then read a number of characteristics from the device itself, such as whether it is capable of tuning multiple channels. Step 717 then builds a new record containing the information in columns 520, FIG. 5. Step 718 adds the record to device database 350, and passes control to exit 702" (Col 6, Lines 24-32). The claimed step of "an act of the tuning system categorizing the plurality of service records into a plurality of service spaces according to broadcast type, such that each service space corresponds to a different broadcast type" is met by Figure 6 Item 623. The information depicted is entered into a database, which is inherently a collection of data structured and organized in a disciplined fashion so that access is possible quickly to information of interest. The claimed steps of "upon receiving a user selection of a service space, identifying a correct one of a plurality of tuners to use in tuning to one or more channels



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that are identified by one or more service records in the selected service space”, “an act of the tuning system receiving a channel selection corresponding to a particular one of the service records in the selected service space” and “an act of the tuning system accessing the particular one of the service records from the memory the particular one of the service records including the extended additional tuning information” are met by Figure 3. “TV-services module 310, one of the services in layer 220, controls multiplexer 130 to select among input devices 120 for presentation on output devices 140, and controls the selected device to tune to a particular channel on that device” (Col 4, Lines 37-40). The claimed step of “an act of the tuning system tuning to the selected channel using the tuning information and the extracted additional tuning information, wherein the extracted additional tuning information enables the tuning system to automatically tune into the selected channel without having to re-extract the additional tuning information that would otherwise be required to tune into the selected channel” is met by Figures 3 and 6. As stated above channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310, where module 310 controls multiplexer 130 to select among input devices 120 for presentation on output devices 140.

In regard to claim 41, the claimed steps of “an act of the tuning system storing information that identifies a tuner in each of the plurality of service records in the memory” and “an act of the tuning system storing information that identifies a channel in each of the plurality of service records in the memory” is met by Figure 6, Items 624 and 622.

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In regard to claim 42, the claimed step of “an act of the tuning system accumulating the plurality of service records in the memory.” is met by Figure 6. “Channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310. FIG. 6 shows a structure 600 for database 370. A set 610 of individual records 611-614 includes columns for designating independent logical and physical designations 621 and 622 for the same channel, for specifying a signal source 623 for that channel, and for naming a primary device 624 for receiving the channel into multiplexer 130, FIG. 1. Logical channel numbers--or other designations--621 are unique within system 100, and have no necessary relation to physical channels, transmission channels, or any other designation employed by their source. They create a linear name space across the entire system” (Col 5, Lines 37-48).

In regard to claim 43, the claimed step of “an act of at least one tuner of the tuning system monitoring at least one broadcast type to determine available channels in the at least one broadcast type” is met by Figure 7. “Step 716 may then read a number of characteristics from the device itself, such as whether it is capable of tuning multiple channels. Step 717 then builds a new record containing the information in columns 520, FIG. 5. Step 718 adds the record to device database 350, and passes control to exit 702” (Col 6, Lines 27-32).

In regard to claims 53-56, Wugofski discloses the use of an EPG for channel selection and recording. The service spaces are inherently selected for tuning purposes.

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In regard to claims 57-58, Wugofski discloses a program number or physical channel number as shown in Figure 6, Item 622.

In regard to claim 59, the claimed step of "a step for storing a plurality of service records, each service record containing tuning information for tuning to a channel of one of the plurality of broadcast types;"

is met by Figures 3-6. "Channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310. FIG. 6 shows a structure 600 for database 370. A set 610 of individual records 611-614 includes columns for designating independent logical and physical designations 621 and 622 for the same channel, for specifying a signal source 623 for that channel, and for naming a primary device 624 for receiving the channel into multiplexer 130, FIG. 1. Logical channel numbers--or other designations--621 are unique within system 100, and have no necessary relation to physical channels, transmission channels, or any other designation employed by their source. They create a linear name space across the entire system" (Col 5, Lines 37-48). "When a new connection is made, step 711 executes step 715, which requests the user to identify the device 120, its port number in multiplexer 130, and its source 110. Step 716 may then read a number of characteristics from the device itself, such as whether it is capable of tuning multiple channels. Step 717 then builds a new record containing the information in columns 520, FIG. 5. Step 718 adds the record to device database 350, and passes control to exit 702" (Col 6, Lines 24-32). The claimed step of "a step for categorizing the plurality of service records into a plurality of service spaces" is met by Figure 6 Item 623. The information depicted is entered into a database, which is

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inherently a collection of data structured and organized in a disciplined fashion so that access is possible quickly to information of interest. The claimed steps of “a step for receiving a selection of one of the service records in one of the service spaces” and “a step for tuning to a channel corresponding to the selected service records using the tuning information provided in the service record” are met by Figure 3 and 6. “TV-services module 310, one of the services in layer 220, controls multiplexer 130 to select among input devices 120 for presentation on output devices 140, and controls the selected device to tune to a particular channel on that device” (Col 4, Lines 37-40). As stated above channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310, where module 310 controls multiplexer 130 to select among input devices 120 for presentation on output devices 140.

In regard to claim 60, the claimed steps of “an act of storing information identify a tuner” and “an act of storing information that identifies a channel tunable by the tuner” is met by Figure 6, Items 624 and 622.

In regard to claim 61, the claimed step of “accumulating the plurality of service records” is met by Figure 6. “Channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310. FIG. 6 shows a structure 600 for database 370. A set 610 of individual records 611-614 includes columns for designating independent logical and physical designations 621 and 622 for the same channel, for specifying a signal source 623 for that channel, and for naming a primary device 624 for receiving the channel into multiplexer 130, FIG. 1. Logical channel numbers--or other designations--621 are unique within system 100, and have no

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necessary relation to physical channels, transmission channels, or any other designation employed by their source. They create a linear name space across the entire system" (Col 5, Lines 37-48).

In regard to claims 62 and 63, the claimed steps of "an act of a tuner monitoring a broadcast to determine available channels" and "for each of the available channels, an act of creating a service record for the available channel if a service record does not already exist for the available channel" are met by Figure 7. "Step 716 may then read a number of characteristics from the device itself, such as whether it is capable of tuning multiple channels. Step 717 then builds a new record containing the information in columns 520, FIG. 5. Step 718 adds the record to device database 350, and passes control to exit 702" (Col 6, Lines 27-32).

In regard to claim 64, the claimed step of "an act of including information that the tuner used to tune to the available channel in the service record" is met by Figure 6, Item 622.

In regard to claim 65, Wugofski teaches using main unit 151 to monitor channels, create service records, and include tuning parameters used to tune to a new channel. The claimed "loader" is met by the main unit 151, which as seen in Figure 1 stores tuning information into memory from various broadcasts and is provided for each tuner as claimed. The claimed "master service control" is also met by the main unit 151, which works with audio/video multiplexer 130 of Figure 1 to create new service records for channels as claimed.

In regard to claim 68, the claimed step of “an act of categorizing at least some of the plurality of service records into service spaces that are categorized according to content” is met by Figure 6 Item 623. The information depicted is entered into a database, which is inherently a collection of data structured and organized in a disciplined fashion so that access is possible quickly to information of interest.

In regard to claim 70, the claimed step of “an act of the tuning system tuning to a selected digital channel corresponding to the selected service record using the tuning information provided in the service record” is met by Figures 3 and 6. As stated above channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310, where module 310 controls multiplexer 130 to select among input devices 120 for presentation on output devices 140.

In regard to claim 71, the claimed method for tuning to a channel from among multiple broadcast types is taught by the tuning system seen in Figure 1 receiving broadcast signals from multiple tuners 110. The claimed computer readable medium for prodding executable code is met by the programmable digital processing system 150, which inherently contains executable code to produce control signals. The claimed step of “a step for storing a plurality of service records, each service record containing tuning information for tuning to a channel of one of the plurality of broadcast types,” is met by Figures 3-6. “Channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310. FIG. 6 shows a structure 600 for database 370. A set 610 of individual records 611-614 includes columns for designating independent logical and physical designations 621 and 622 for the same channel, for

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specifying a signal source 623 for that channel, and for naming a primary device 624 for receiving the channel into multiplexer 130, FIG. 1. Logical channel numbers--or other designations--621 are unique within system 100, and have no necessary relation to physical channels, transmission channels, or any other designation employed by their source. They create a linear name space across the entire system" (Col 5, Lines 37-48). "When a new connection is made, step 711 executes step 715, which requests the user to identify the device 120, its port number in multiplexer 130, and its source 110. Step 716 may then read a number of characteristics from the device itself, such as whether it is capable of tuning multiple channels. Step 717 then builds a new record containing the information in columns 520, FIG. 5. Step 718 adds the record to device database 350, and passes control to exit 702" (Col 6, Lines 24-32). The claimed step of "a step for categorizing the plurality of service records into a plurality of service spaces" is met by Figure 6 Item 623. The information depicted is entered into a database, which is inherently a collection of data structured and organized in a disciplined fashion so that access is possible quickly to information of interest. The claimed steps of "a step for receiving a selection of one of the service records in one of the service spaces" and "a step for tuning to a channel corresponding to the selected service records using the tuning information provided in the service record" are met by Figure 3 and 6. "TV-services module 310, one of the services in layer 220, controls multiplexer 130 to select among input devices 120 for presentation on output devices 140, and controls the selected device to tune to a particular channel on that device" (Col 4, Lines 37-40). As stated above channel-mapping services module 360 builds, maintains, and reads a

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channel-map database 370 for module 310, where module 310 controls multiplexer 130 to select among input devices 120 for presentation on output devices 140.

In regard to claim 72, the claimed steps of “an act of the tuning system storing information identifies a tuner” and “an act of the tuning system storing information that identifies a channel tunable by the tuner” is met by Figure 6, Items 624 and 622.

In regard to claim 73, the claimed step of “accumulating the plurality of service records” is met by Figure 6. “Channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310. FIG. 6 shows a structure 600 for database 370. A set 610 of individual records 611-614 includes columns for designating independent logical and physical designations 621 and 622 for the same channel, for specifying a signal source 623 for that channel, and for naming a primary device 624 for receiving the channel into multiplexer 130, FIG. 1. Logical channel numbers--or other designations--621 are unique within system 100, and have no necessary relation to physical channels, transmission channels, or any other designation employed by their source. They create a linear name space across the entire system” (Col 5, Lines 37-48).

In regard to claim 74, the claimed steps of “an act of a tuner monitoring a broadcast to determine available channels” and “for each of the available channels, an act of creating a service record for the available channel if a service record does not already exist for the available channel” are met by Figure 7. “Step 716 may then read a number of characteristics from the device itself, such as whether it is capable of tuning multiple channels. Step 717 then builds a new record containing the information in



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columns 520, FIG. 5. Step 718 adds the record to device database 350, and passes control to exit 702" (Col 6, Lines 27-32). The claimed step of "an act of including information that the tuner used to tune to the available channel in the service record" is met by Figure 6, Item 622.

In regard to claim 75, the claimed tuning system for tuning to a plurality of different broadcast types is met by the tuning system seen in Figure 1.

The claimed limitations of a first and second tuner are met the signal input devices 110 and signal receivers 120 of Figure 1. The claimed controller is met by main unit 151 where the memory is inherent. "Channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310. FIG. 6 shows a structure 600 for database 370. A set 610 of individual records 611-614 includes columns for designating independent logical and physical designations 621 and 622 for the same channel, for specifying a signal source 623 for that channel, and for naming a primary device 624 for receiving the channel into multiplexer 130, FIG. 1. Logical channel numbers--or other designations--621 are unique within system 100, and have no necessary relation to physical channels, transmission channels, or any other designation employed by their source. They create a linear name space across the entire system" (Col 5, Lines 37-48). "When a new connection is made, step 711 executes step 715, which requests the user to identify the device 120, its port number in multiplexer 130, and its source 110. Step 716 may then read a number of characteristics from the device itself, such as whether it is capable of tuning multiple channels. Step 717 then builds a new record containing the information in columns 520,

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FIG. 5. Step 718 adds the record to device database 350, and passes control to exit 702" (Col 6, Lines 24-32).

In regard to claim 78, the claimed limitation of "means for receiving a plurality of different broadcast types" is met by Figure 1, Item 110 and Figure 6.

In regard to claim 79, the claimed method for tuning to a channel from among multiple broadcast types is taught by the tuning system seen in Figure 1 receiving broadcast signals from multiple tuners 110. The claimed computer readable medium for prodding executable code is met by the programmable digital processing system 150, which inherently contains executable code to produce control signals. The claimed step of "an act of the tuning system storing a plurality of service records in a memory accessible by the tuning system, wherein each service record contains tuning information for tuning to a channel of one of the plurality of broadcast types" is met by Figures 3-6. "Channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310. FIG. 6 shows a structure 600 for database 370. A set 610 of individual records 611-614 includes columns for designating independent logical and physical designations 621 and 622 for the same channel, for specifying a signal source 623 for that channel, and for naming a primary device 624 for receiving the channel into multiplexer 130, FIG. 1. Logical channel numbers--or other designations--621 are unique within system 100, and have no necessary relation to physical channels, transmission channels, or any other designation employed by their source. They create a linear name space across the entire system" (Col 5, Lines 37-48). "When a new connection is made, step 711 executes step 715, which requests the user

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to identify the device 120, its port number in multiplexer 130, and its source 110. Step 716 may then read a number of characteristics from the device itself, such as whether it is capable of tuning multiple channels. Step 717 then builds a new record containing the information in columns 520, FIG. 5. Step 718 adds the record to device database 350, and passes control to exit 702" (Col 6, Lines 24-32). The claimed step of "an act of the tuning system categorizing the plurality of service records into a plurality of service spaces" is met by Figure 6 Item 623. The information depicted is entered into a database, which is inherently a collection of data structured and organized in a disciplined fashion so that access is possible quickly to information of interest. The claimed steps of "an act of the tuning system receiving a channel selection from an input device communicatively coupled to the tuning system, wherein the selected channel correspond to one of the service records in one of the service spaces", "an act of the tuning system accessing the selected service record from the memory" and "an act of the tuning system tuning to the selected channel using the tuning information of the accessed service record" are met by Figure 3 and 6. "TV-services module 310, one of the services in layer 220, controls multiplexer 130 to select among input devices 120 for presentation on output devices 140, and controls the selected device to tune to a particular channel on that device" (Col 4, Lines 37-40). As stated above channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310, where module 310 controls multiplexer 130 to select among input devices 120 for presentation on output devices 140.

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In regard to claim 80, the claimed steps of “an act of the tuning system storing information that identifies a tuner in memory” and “an act of the tuning system storing information that identifies a channel in memory” is met by Figure 6, Items 624 and 622.

In regard to claim 81, the claimed step of “accumulating the plurality of service records” is met by Figure 6. “Channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310. FIG. 6 shows a structure 600 for database 370. A set 610 of individual records 611-614 includes columns for designating independent logical and physical designations 621 and 622 for the same channel, for specifying a signal source 623 for that channel, and for naming a primary device 624 for receiving the channel into multiplexer 130, FIG. 1. Logical channel numbers--or other designations--621 are unique within system 100, and have no necessary relation to physical channels, transmission channels, or any other designation employed by their source. They create a linear name space across the entire system” (Col 5, Lines 37-48).

In regard to claim 82, the claimed method for tuning to a channel from among multiple broadcast types is taught by the tuning system seen in Figure 1 receiving broadcast signals from multiple tuners 110. The claimed computer readable medium for prodding executable code is met by the programmable digital processing system 150, which inherently contains executable code to produce control signals.

In regard to claim 83, the service records include information regarding broadcast type that may be received as shown in Figure 6. The claimed steps of “receiving tuning information regarding an available channel over a broadcast”, “creating a service record

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for the available channel” and “including the tuning information in the service record” are met by Figures 3-6. “Channel-mapping services module 360 builds, maintains, and reads a channel-map database 370 for module 310. FIG. 6 shows a structure 600 for database 370. A set 610 of individual records 611-614 includes columns for designating independent logical and physical designations 621 and 622 for the same channel, for specifying a signal source 623 for that channel, and for naming a primary device 624 for receiving the channel into multiplexer 130, FIG. 1. Logical channel numbers--or other designations--621 are unique within system 100, and have no necessary relation to physical channels, transmission channels, or any other designation employed by their source. They create a linear name space across the entire system” (Col 5, Lines 37-48).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 27-28, 44-45, 66-67, 69 and 76-77 are rejected under 35 U.S.C. 103(a) as being unpatentable over DeFreese et al. (US Pat No 6,493,876).

In regard to claim 27, Wugofski does not explicitly disclose the use of “a pointer associated with the service record in at least one of the service spaces”. DeFreese teaches a system and method for full service cable television system, including the ability to receive broadcasts from a plurality of providers and create a master service record. As seen in Figure 5 of DeFreese, the claimed pointers are explicitly taught from

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a channel table to the service table. The service table is comprised of records that include further pointers to link information regarding their source for tuning. It would have been obvious for one skilled in the art at the time of the invention to modify the data storing techniques taught by Wugofski by using pointers as taught by DeFreese in order to provide a flexible architecture that is easily updated.

In regard to claim 28, Wugofski discloses categorizing the plurality of service records into a plurality of service spaces" as noted above. However, Wugofski does not teach creating a favorites service space for including pointers to service records that correspond to service records included in at least one other service space corresponding to a particularly broadcast type, and such that a viewer can select the channel from the favorites space." DeFreese teaches the use of a subscriber favorite line-up stored in memory in column 17, lines 62-63 and using pointers among channel groups as seen in Fig. 5. As seen in Figure 15, users may categorized channels into a variety of groups such as blocked or favorite channels. It would have been obvious for one skilled in the art at the time of the invention to modify the channel map storing techniques of Wugofski by allowing the creation of a favorite space as taught by DeFreese in order to allow the viewer quick access to their favorite shows.

In regard to claim 44, Wugofski does not explicitly disclose the use of "a pointer associated with the service record in at least one of the service spaces." DeFreese teaches a system and method for full service cable television system, including the ability to receive broadcasts from a plurality of providers and create a master service record. As seen in Figure 5 of DeFreese, the claimed pointers are explicitly taught from

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a channel table to the service table. The service table is comprised of records that include further pointers to link information regarding their source for tuning. It would have been obvious for one skilled in the art at the time of the invention to modify the data storing techniques taught by Wugofski by using pointers as taught by DeFreese in order to provide a flexible architecture that is easily updated.

In regard to claim 45, Wugofski discloses categorizing the plurality of service records into a plurality of service spaces" as noted above. However, Wugofski does not disclose creating a favorites service space for including pointers to service records that correspond to service records included in at least one other service space corresponding to a particularly broadcast type, and such that a viewer can select the channel from the favorites space." DeFreese teaches the use of a subscriber favorite line-up stored in memory in column 17, lines 62-63 and using pointers among channel groups as seen in Fig. 5. As seen in Figure 15, users may categorize channels into a variety of groups such as blocked or favorite channels. It would have been obvious for one skilled in the art at the time of the invention to modify the channel map storing techniques of Wugofski by allowing the creation of a favorite space as taught by DeFreese in order to allow the viewer quick access to their favorite shows.

In regard to claim 66 and 67, Wugofski does not explicitly disclose the use of "a pointer associated with the service record in at least one of the service spaces" or "creating a master service space that includes pointers to all of the plurality of service records". DeFreese teaches a system and method for full service cable television system, including the ability to receive broadcasts from a plurality of providers and

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create a master service record. As seen in Figure 5 of DeFreese, the claimed pointers are explicitly taught from a channel table to the service table. The service table is comprised of records that include further pointers to link information regarding their source for tuning. It would have been obvious for one skilled in the art at the time of the invention to modify the data storing techniques taught by Wugofski by using pointers as taught by DeFreese in order to provide a flexible architecture that is easily updated.

In regard to claim 69, Wugofski discloses "categorizing the plurality of service records into a plurality of service spaces" as noted above. However, Wugofski does not teach "an act of creating a favorites service space for including service records that correspond to desirable channels" DeFreese teaches the use of a subscriber favorite line-up stored in memory in column 17, lines 62-63 and using pointers among channel groups as seen in Fig. 5. As seen in Figure 15, users may categorize channels into a variety of groups such as blocked or favorite channels. It would have been obvious for one skilled in the art at the time of the invention to modify the channel map storing techniques of Wugofski by allowing the creation of a favorite space as taught by DeFreese in order to allow the viewer quick access to their favorite shows.

In regard to claim 76, Wugofski does not explicitly disclose the use of "a pointer associated with the service record in at least one of the service spaces". DeFreese teaches a system and method for full service cable television system, including the ability to receive broadcasts from a plurality of providers and create a master service record. As seen in Figure 5 of DeFreese, the claimed pointers are explicitly taught from a channel table to the service table. The service table is comprised of records that



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include further pointers to link information regarding their source for tuning. It would have been obvious for one skilled in the art at the time of the invention to modify the data storing techniques taught by Wugofski by using pointers as taught by DeFreese in order to provide a flexible architecture that is easily updated.

In regard to claim 77, the service records include information regarding broadcast type as shown in Figure 6.

6. Claim 51 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wugofski.

In regard to claim 51, Wugofski fails to disclose that the additional information is obtained from the program association table portion of the digital data stream. However, the examiner takes Official Notice that it is notoriously well known in the art to obtain information from the program association table portion of a digital data stream so as to receive information regarding the service found in the digital data stream. Consequently, it would have been obvious to one of ordinary skill in the art to implement Wugofski with obtaining information from the program association table portion of a digital data stream so as to receive information regarding the service found in the digital data stream.

### ***Conclusion***


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Manning whose telephone number is 703-305-0345. The examiner can normally be reached on M-F: 8:00 - 5:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John W Miller can be reached on 703-305-4795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JM  
January 18, 2005



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